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The past year was the second year of our intervention study that aims to improve the breast screening behavior among single (windowed, divorced, separated or never-married) African-American women ages 65 and older. During the period, we successfully (1) finished pre-intervention interviews with a high participation rate of eligible women, (2) finished interventions on the study subjects in the intervention group, (3) mailed intervention materials to significant others of the women in the intervention group, (4) did preparatory work for post-intervention interviews, (5) cleaned, edited, and analyzed pre-intervention data and (6) had some pre-intervention results which will be presented at a scientific meeting. We are currently conducting post-intervention interviews. Our research team members and lay health educators have done an outstanding job to reach the goal described in the statement of work.

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INTRODUCTION

The past year was the second year of our intervention study that aims to improve the breast screening behavior among single (windowed, divorced, separated or never-married) African-American women ages 65 and older. During the period, our research team members and lay health educators did an outstanding job to reach the goal of the project. We successfully:

- Finished pre-intervention interviews;
- Finished interventions on the study subjects;
- Mailed intervention materials to significant others of the study women;
- Did preparatory work for post-intervention interviews;
- Are conducting post-intervention interviews;
- Cleaned, edited, and analyzed pre-intervention data and had an abstract accepted for the presentation at American College of Epidemiology meeting (see appendices).

The body of this report is organized into three sections:

- Pre-intervention results
- Implementation of intervention program
- Implementation of post-intervention interviews

BODY

1. Section I: Some Pre-Intervention Results

1.1 Introduction

Breast cancer is the most common cancer and the second leading cause of cancer deaths among US women [1]. About one-half of the deaths from breast cancer occur in women older than 65 years [2-3]. Therefore, the problem of breast cancer is especially serious for older women. Although the effectiveness of breast cancer screening on decreasing mortality of the disease has been well demonstrated [4-5], regular breast cancer screening procedures are underused among older women [2, 6], especially older African-American women [7-9]. For older African-American women who are single, the risk of underusing breast cancer screening may be even higher because they may have less familial and social support, lower family income, and more psychological and behavioral obstacles.

Common barriers to breast screening are cognition-related, economy-related, social-support-related and medical care-related. The cognitive barriers include lack of knowledge and incorrect beliefs and attitude on breast screening. Studies have shown that women aged 65 years and over are less knowledgeable about their vulnerability to breast cancer [10] and their needs of breast screening [11]. African-American women with less use of screening also lack related knowledge [12]. Women aged 50 and older who did not comply with mammography for the 5 years were less likely to believe the benefits of mammography and to have health motivation. Among older African-American women, those who felt fear of detection of cancer, and embarrassment or discomfort of the procedure were less likely to accept mammography [13]. Poverty is an economy-related barrier. A study among African-American women showed that women who had a household income less than $10,000 were 20-30% less likely to have a mammogram, compared with those with a household income more than $20,000 [14]. Although

mammography [10] screening are now covered by Medicare and Medicaid, economical disadvantage may still be influential on the use of mammography [15]. Social support-related barriers may especially be true for older African-American women. A combination of aging, disease, and poverty common in this population may lead to enmeshment of physical difficulty, limited social/familial activities and economic difficulty. Therefore, older women have less access to information sources about screening and have more difficulties getting to screening site [2,16]. A survey of 1184 women ages 45-75 also showed that social interaction is associated with the ever use of mammography [17]. Lack of physician's recommendation is a major physician/medical care-related barrier. Women who did not have a physician's recommendation for a breast screening are much less likely to have one [18,19]. Fewer physicians' recommendations are obvious for older African-American women [2]: 65% of African-American women ages 70 and over were never recommended by a physician to have a mammogram, compared with 43% among white women in the same age group [14].

For single older African-American women, single marital status may bring about additional barriers to breast cancer screening in addition to the barriers related to older age and African ethnicity. This may be due to (1) lack of support and help from spouse in spirits and routine life, (2) fewer economic resources [20], (3) distress and depression [21-22], because of loneliness due to loss of the spouse, and (4) less interactions with their social network [20] and less social support as a result of restricted physical mobility, loss of the spouse and the withdrawal from previous social relations. Therefore, older single African-American women may be less motivated, advised, and helped to seek a breast screening.

Although many barriers to breast screening have been described, profiles of barriers may

differ depending upon different cultural, psychological and physiological characteristics [23-26]. Factors related to breast screening behavior among older single African-American women have not been studied to our knowledge. Using data from single African-American women aged 65 and older living in the public housing complexes, Nashville, this study examined cognitive, economic, social, psychological and medical-care factors in relation to the use of mammography in the population.

1.2. Materials and Methods

Study Subjects: This study was conducted in public housing complexes administered by Metropolitan Development and Housing Agency (MDHA), Nashville, Tennessee. The primary purpose of developing public housing projects has been to provide decent, safe, and sanitary housing for low-income citizens of Nashville-Davidson County. Average annual income for the ten housing complexes of the study ranged $5,192-$7,439 in 1997.

Study subjects were single African-American women ages 65 and older living in ten public housing complexes. The single was defined as those who were divorced, widowed, separated and never-married in the past year of the study. Before the onset of the study, MDHA provided the research team a list of addresses of all African-American ages 65 and older. Door-to-door canvassing strategy was taken to identify the eligible women and to recruit them for the study. The door-to-door canvassing was conducted by a female study helper (see below) identified from the complex and a female research interviewer who were African-American. With a letter from the resident association coordinator of MDHA and a letter from the principal investigator, the study helper and the research interviewer visited each address to identify eligible women according to

ethnicity, age, marital status and history of breast cancer. If a woman was eligible, the interviewer further introduced the study and its procedures, mentioned monetary incentive and obtained the woman's consent to participate in the study. For an eligible woman who was willing to participate and signed the consent form, an in-person interview was conducted immediately if she was available at the visit or scheduled if she was not available then. If an individual at the address was not home at the visit, subsequent visits were made to identify the eligibility. The same efforts were made to complete an interview for a woman who was not home at a scheduled time. Considering that some refusals might result the fact that a woman might be doing something (such as watching TV) or was not in a good mood that she did not want an interview at that time, we visited refusing women again at another time. Through the efforts of the research team members and study helpers, we achieved a high participation rate of eligible women: eight hundred and twenty-nine homes were visited with 367 eligible women identified and 325 interviewed (88.6% of eligible women).

Data Collection: In-person interviews were conducted for data collection. Interviewers were provided two 2-3 hour sessions on interviewing/recording/editing skills, introducing the questionnaire, defining/clarifying questions and answers, and mimicking interview process. Other issues for a good interview and communication with women, such as interviewer's appearance, ways to approach women, introduction remarks, ways to deal with difficult situations and so on, were also addressed. Information collected included:

- Demographic variables: age, ever married or lived-as-married status, marital status in the past year, educational level, household income, and religion preference;
- Use of breast cancer screening procedures: Ever use and use frequency of clinical breast examination, mammography and breast self-examination;

- Social and familial factors: Number of children, grandchildren, close relatives and close friends; frequency of telephone calling the children/grandchildren, relatives or friends, willingness of the children/grandchildren, relatives or friends to provide financial help or care when needed; frequency of attending social activities; going shopping and going to religious places;
- Medical care factors: Having a medical insurance, a regular medical facility, and a regular doctor; distance between home and the regular medical facility; availability of transportation for visiting a doctor; seeing a doctor regularly; and the regular doctor's or other doctors' recommendations for a mammogram;
- Knowledge, attitudes and beliefs on breast health: usefulness of mammograms, need of a mammogram without a breast problem, possibility of having breast cancer without symptoms, curability of breast cancer if caught early, screening for breast cancer making women worry, treatment worse than the disease, spread of cancer by an operation, concerns on cost/radiation/discomfort due to mammography, fear of finding cancer, stopping having a mammogram due to the concerns, likelihood to get a mammogram next year, risk of getting breast cancer, information about breast health through media or from family members/relatives/friends, and meeting attended or educational materials received last year;
- History of benign breast disease and history of breast cancer in relatives (mother, daughter and sisters) and friends;
- Emotional and psychological symptoms and signs: sad or blue, poor appetite, weight loss/gain, trouble falling asleep, sleeping to much, loss of energy, easily fatigue, feeling tired, loss of interest or pleasure, feeling guilty or down, feeling worthless, feeling lonely, irrational fear of illness, poor concentration, slowing of thinking, trouble

making decisions, being unable to sit still, slowing down physically, and thoughts of ending life.

Data Analysis: We compared women with a mammogram in the past year and those without. The frequency distribution for each factor was calculated and the variables with statistically significant differences between the two groups are presented in the tables below. To control for potential confounders by demographic variables, we used logistic regression method to calculate the odds ratio estimates and their 95% confidence intervals [27]. Some demographic variables (current marital status, educational level, household income and religion) were not associated with the use of mammography in our data, probably because of small variations in the distribution or the lack of the effects. Therefore, we only adjusted for age and ever-married/lived-as-married status in the analysis. When variables on telephone calling to and help or support from children/grandchildren, relatives or friends were analyzed, however, the additional adjustment was made for the number of children/grandchildren, relative or friends.

1.3. Results

Table 1 shows the demographic characteristics of women with and without a mammogram in the past year. Women who did not have a mammogram in the past year tended to be older and were more likely to be never married, compared with those who underwent such a procedure. However, the two groups of women did not differ significantly in marital status in the past year, educational level, household income and religion preference.

The use of mammography in the past year is correlated with ever use of the procedure and

the use of other breast screening procedures (table 2). Women with a mammogram in the past year were more likely to be an ever user of the procedure, and more likely to have had a breast clinical examination or self-examination. While all women with a mammogram had ever heard about the procedure, about 20% of women without a mammogram in the past year had never heard of it.

Social and familial factors that may be related to the use of mammography are listed in table 3. Women with a mammogram in the past year were more likely to have children or grandchildren, attend social activities, and go to church, compared with those without a mammogram. However, they were less likely to have a child or grandchild living in the household. The two groups were not different in other social/familial factors including communications with and help from children/grandchildren, relatives and friends, although more relatives were considered to be definitely willing to help in the mammogram group.

Doctor's recommendation for having a mammogram is influential on women' use of mammography (table 4). The percentage of having a doctor recommendation for a mammogram was almost doubled among women who had a mammogram in the past year, compared with those who did not have the procedure. More women with a mammogram in the past year had a health insurance and a regular doctor, compared with those without it. They visited a doctor more frequently. However, the distance from home to a regular medical facility did not affect the women's behavior on seeking a mammogram: those who got an examination seemed to live farther from the medical facility.

While there were no differences in some cognitive factors, more women with a

mammogram in the past year agreed that mammography is useful for early detection of breast cancer, a woman can have the disease without any symptoms, and a woman needs a mammogram before getting a breast problem (table 5). They were more likely to have a mammogram despite their concerns on the procedure, and to get a mammogram in the next year. They also more likely got information about breast health through media, organization meetings or distributed educational materials and the information made them more likely to get a breast examination. However, it is noteworthy that about 69% of all women thought that an operation can cause cancer to spread and only 5.6 % of the women thought that women over 65 years of age are at higher risk of getting breast cancer compared with younger women. More than 69% of all women believed that surgery can spread cancer, 74% thought that looking for breast cancer makes women worry and 50% thought that treatment of breast cancer is worse than the disease itself.

History of breast lumps and history of breast cancer in the first-degree relatives is positively associated with the use of mammography in the past year (table 6). However, there were no significant differences between women with and without the procedure in all 19 psychological measures, although women without a mammogram tended to have less poor appetite, weight loss/gain and trouble in sleeping, and women with the procedure tended to have less slowing in thinking and physical slowing.

When logistic regression analysis with the adjustment of age and ever-married/lived-as-married status was conducted for each of the variables above, the results remained similar (data not shown).

1.4. Discussion

Single (widowed, divorced, separated and never-married) women constitute 75 percent of African-American women aged 65 and older [28] and breast screening is least used among older African-American women [7,8]. Therefore, it is important to demonstrate barriers to mammography in older single African-American women. This study shows that increasing age and never-married status increase the risk of not having a mammogram in the past year in older single African-American women living in the public housing complexes. Other aspects that are associated with a mammogram in the past year in this population included some social and familial factors (number of children or grandchildren, attending social activities and frequency of going to church), medical care factors (doctor's recommendation for a mammogram, frequency of visiting a doctor, and having insurance), cognitive factors (usefulness of mammography, knowledge of early-stage breast cancer, and the need of a mammogram before a breast problem), education on breast health, and breast cancer history in first-degree relatives. However, we did not find psychological factors as a barrier to the use of the procedure.

Compared with younger women, women aged 65 years and older used significantly less screening mammography [11,29,30]. According to the 1987 National Health Interview Survey, the proportions of women who ever had a mammogram were 41-42%, 35% and 25% for the age of 40-64 years, 65-74 years, and 75 years and older, respectively [2,14]. This tendency was shown when mammography performed in the past year was used as a measure [29,30] and when each ethnic group was analyzed separately. Such age/mammogram relation was confirmed in single African-American women aged 65 and over in our study.

Mammogram users and non-users did not differ in the distribution of marital status (widowed, divorced, separated and never-married) in the past year. However, women who did not have a mammogram were more likely to have never been married or lived as married. A previous study also found that never-married or widowed women were less likely to have had a mammogram in the past year or ever [15,30]. Our results suggest that African-American women who were never-married or lived as married may be at highest risk of underusing mammography while older African-American women with other single marital status are at higher risk compared with married counterparts. The results may imply that there are more barriers for never-married/never-lived-as-married women, such as less intention to have a preventive care due to lack of children (see below).

The familial and social support network may be very important for older African-American women to get a breast examination because of their physical difficulties, economic difficulties and less access to information sources. Social network score, based on number of confidants, close friends and close relatives, frequency of contact with them, and church attendance, was positively associated with mammography use in older Mexican-American women [31] and older African-American women [7]. Another study found that significant others could positively influence an African-American woman's intention to have a mammogram [32]. Our study showed that frequency of contact with and help from children/grandchildren, close relatives and close friends did not influence an older single African-American woman's behavior in having a mammogram. The fact that women who had living children or grandchildren were more likely to get a mammogram may reflect the women's beliefs that their health status matters to their children or grandchildren [33]. The positive effects of attending social activities and going to religious places found in our study may be related to more information sources.

A physician recommendation may be the most important factor for older women, especially older minority women, to get a mammogram [2, 19]. Whether there are a usual source of care [34] and whether one visits a doctor for care [33] are also positively associated with the use of mammography. These were confirmed in older single African-American population in our study. However, the distance to the regular medical facility was not positively related to the use of mammography. This may imply that as long as a woman is determined to seek a mammogram, the distance may not be a factor to impede such behavior. Other access barriers such as cost and medical insurance were not very influential because almost all women eventually had medical insurance and most insurance programs cover the cost for mammography now.

Possible barriers in knowledge, beliefs and attitude among African-American women include lack of knowledge of mammography, lack of knowledge of breast cancer and its treatment, lack of perceived vulnerability, and fear of abnormal results [13,35,36]. Our study demonstrated that older single African-American women with a mammogram in the past year were more likely to believe that (1) mammography is useful, (2) a woman can have breast cancer without any symptoms, (3) breast cancer can be cured if caught early. These women were more likely to have heard of breast cancer or breast examination. For other measures such as whether surgery spreads cancer, whether the risk is higher for women aged 65 and older, and whether treatment is worse than the disease itself, although not significantly different, a high percentage of women lacked sound knowledge and beliefs. However, the majority (about 70%) of women did not worry about the radiation, machine pressing or cost of a mammogram. The results suggest that knowledge, attitudes, and beliefs are predictors of mammography behavior and educational programs to increase knowledge on breast health are imperative for this population.

Our results suggest several issues that may be important for future intervention programs targeting older single African-American women. First, education or information specifically on breast health, delivered by children or grandchildren, may be important because older single African-American women may seek preventive care for the sake of their children or grandchildren. Second, a physician's recommendation is very influential probably because older African-American women display complete confidence in their doctor. The fact that about half of those without a mammogram did not get such a recommendation suggest that physicians should be advised to pay attention to this population in the recommendation of mammography. Third, education on cognitive barriers should be an important component for future intervention programs in this population. A high percentage of older single African-American women do not have the basic knowledge, correct attitudes and beliefs on breast cancer and breast screening. Targeting the barriers specific to this population will be significant for improving the use of mammography among older single African-American women.

2. Section II: Implementations of Intervention Program

2.1. Intervention on study women: The interventions were delivered to one hundred and sixty-two women in the intervention group. Based on the intervention evaluation forms, 96.9% of interventions on breast health were very good and the rest of them (3.1%) were good. The corresponding percentages were 97.5% and 2.5% for interventions on emotional adjustment. About 93.7 and 96.2 percents of women were interested in the teaching on breast health and emotional adjustment, respectively. About ninety-seven percent of women seemed to understand the intervention content.

2.2. Intervention on significant others: Once the interventions were completed, we sent a packet containing a cover letter, educational brochure and support agreement to each of women's significant others and asked them to complete the agreement and return it to us with a enclosed stamped envelop. Because of a relative low response rate, we decided to mail a second packet to significant others who did not respond to the first one.

Three hundred and nine significant others of 151 women in the intervention group were sent a mail. A second packet was sent to 206 significant others who did not respond. Fifty-nine significant others (19.1%) returned the completed support agreement to show their willingness to help study women with getting breast screening and provide emotional support.

3. Section III: Post-Intervention Interviews

Up to August 31, two hundred and twenty-nine homes of 325 eligible women who had an interview last year have been visited. Table 7 lists the number of eligible women, the number of refusals/deaths/relocations, the number of interviews completed and the number of remaining homes for visit according to the complex.

Because of the old age of the study population, 6 out of 229 women had died when we visited them this year. Twenty-four women moved out of the public housing complexes. Eight women refused to participate in the study. A number of 191 women (83.4%) have been interviewed. We could trace some women who moved out and an interview would be conducted for those whom we can find. We will make an additional visit to women who did not want to

participate when we visited them last time.

CONCLUSIONS

According to the Statement of Work, pre-interviews and interventions should be completed at the end of 16th month of the project. Post-intervention should be completed at the end of 27th month.

The research team members have worked diligently on identifying and recruiting study subjects, interviewing with and following up study women, mailing intervention materials to significant others, establishing and managing computer files, entering, cleaning and editing data, and conducting data analysis. The lay health educators of the study have done well in the delivery of the interventions on breast screening behavior and emotional adjustment. As of August 31, 1998, the project staff has finished pre-intervention interviews and intervention components designated in the statement of work and are conducting post-intervention interviews.

In the past report, we proposed adding two other housing complexes to the study because the number of eligible women in the original 8 complexes was lower than expected. We expected to add 50-70 more women with a total number of 330-380. However, only 33 eligible women were identified from these two complexes with 29 of them interviewed. Therefore, the final number of women interviewed was 325. Although this number of individuals is less than we hoped, the addition of two complexes itself may be more important, as the number of communities (complexes) has greater impact on study power than the number of individuals within communities (complexes)[37].

In conclusion, this project has been very successful up to now. Our study has obtained the participation of 88.6% of eligible women through our unremitting effort. Considering the barriers to enroll African-Americans into a study and low response rates in some other studies, this participation rate is outstanding and is significant for the accuracy of any results that will be generated from the study. We have also finished the implementation of the intervention program and generated some results on pre-intervention data that have been accepted for a presentation at ACE meeting. Post-intervention interviews are underway as planned. The research team will continue their efforts to keep this project going successfully.

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APPENDICES

Table 1. Demographic characteristics of older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Table 2. Breast cancer screening procedures in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Table 3. Social and familial factors in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Table 4. Medical care factors in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Table 5. Knowledge, attitudes, and beliefs on breast health in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Table 6. History of breast lumps and family history of breast cancer in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Table 7. The numbers of eligible women, move outs, deaths, refusals, interviews completed and remaining interviews according to complex for post-intervention interviews, as to August 31, 1998

The acceptance letter of the abstract to be presented at the American College of Epidemiology annual meeting

Table 1. Demographic characteristics of older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Variable		Women without a mammogram (%)	Women with a mammogram (%)
Age (year)	65-69	36 (24.2)	53 (30.5)
	70-74	34 (22.8)	45 (25.9)
	75-79	22 (14.8)	35 (20.1)
	80-84	30 (20.1)	25 (14.4)
	>=85	27 (18.1)	16 (9.2)
Ever married or lived as married	No	20 (13.4)	14 (8.0)
	Yes	129 (86.6)	160 (92.0)
Marital status in past year	Separated	13 (8.7)	19 (10.9)
	Divorced	20 (13.4)	24 (13.8)
	Widowed	96 (64.4)	114 (65.5)
	Never married	20 (13.4)	17 (9.8)
Educational level	No schooling or elementary school	16 (10.8)	23 (13.4)
	Middle school	58 (39.2)	54 (31.4)
	High school	61 (41.2)	73 (42.4)
	Vocational or technical training school	3 (2.0)	9 (5.2)
	Some college	7 (4.7)	10 (5.8)
	College or higher	3 (2.0)	3 (1.7)
Household income in past year	<$5,000	80 (59.3)	94 (59.1)
	$5,000-$9,999	52 (38.5)	61 (38.4)
	$10,000-$14,999	3 (2.2)	4 (2.5)
Religion	Protestant	142 (95.3)	160 (92.5)
	Catholic	1 (0.7)	1 (0.6)
	Latter Day Saint	1 (0.7)	1 (0.6)
	Other	5 (3.4)	9 (5.2)
	None	0 (0.0)	2 (1.2)

Table 2. Breast cancer screening procedures in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Variable		Women without a mammogram (%)	Women with a mammogram (%)
Ever had a clinical Breast examination	No	35 (23.5)	4 (2.3)
	Yes	114 (76.5)	170 (97.7)
Clinical breast examinations in last year	No	60 (54.1)	5 (3.0)
	1 exam	31 (27.9)	106 (62.7)
	2-12 exams	20 (18.0)	58 (34.3)
Ever heard of mammogram	No	27 (18.2)	3 (1.8)
	Yes	121 (81.8)	168 (98.2)
Ever had a mammogram	No	75 (51.0)	0 (0.00
	Yes	72 (49.0)	174 (100.0)
Breast self examinations	No	49 (33.1)	35 (20.2)
	Yes	99 (66.9)	138 (79.8)

Table 3. Social and familial factors in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Variable		Women without a mammogram (%)	Women with a mammogram (%)
Number of children	No	63 (42.3)	42 (24.1)
	1-2	35 (23.5)	64 (36.8)
	3-4	26 (17.4)	30 (17.2)
	>=5	25 (16.8)	38 (21.8)
Number of grand-children	No	54 (36.5)	42 (24.6)
	1-5	36 (24.3)	61 (35.7)
	6-10	31 (20.9)	26 (15.2)
	>=11	27 (18.2)	42 (24.6)
Children or grand-children living in household	No	78 (80.4)	121 (90.3)
	Yes	19 (19.6)	13 (9.7)
Frequentcy of attending social activities in past year	None	87 (59.2)	76 (44.2)
	1-2 times/yr	15 (10.2)	17 (9.9)
	3-6 times/yr	21 (14.3)	41 (23.8)
	1-3 times/mon	24 (16.3)	38 (22.1)
Frequency of going to religious places	No	27 (18.8)	20 (11.9)
	> 1 mon	18 (12.5)	10 (6.0)
	1/mon	15 (10.4)	12 (7.1)
	1/bi-weekly	13 (9.0)	26 (15.5)
	weekly	71 (49.3)	100 (59.5)

Table 4. Medical care factors in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Variable		Women without a mammogram (%)	Women with a mammogram (%)
Have a regular doctor	No	35 (23.8)	18 (10.3)
	Yes	112 (76.2)	156 (89.7)
Regular doctor-advised mammogram	No	57 (52.8)	23 (14.8)
	Yes	51 (47.2)	32 (85.2)
See a doctor regularly	No	38 (25.5)	17 (9.8)
	Yes	111 (74.5)	156 (90.2)
Any other doctors advised mammogram	No	95 (66.4)	58 (33.3)
	Yes	48 (33.6)	116 (66.7)
Frequency of visiting a doctor in past 5 years	None or 1/year	23 (15.5)	4 (2.3)
	1-5 times/year	82 (55.4)	106 (60.9)
	>=1-2 times/month	41 (27.7)	59 (33.9)
	Don't know	2 (1.4)	5 (2.9)
Miles to the medical facility that you usually go	<=1 miles	16 (12.0)	15 (9.3)
	2-3 miles	34 (25.6)	27 (16.7)
	4-5 miles	38 (28.6)	42 (25.9)
	6-7 miles	4 (3.0)	4 (2.5)
	8-9 miles	16 (12.0)	47 (29.0)
	10-20 miles	25 (18.8)	27 (16.7)
Have medical Insurance	No	7 (4.7)	0 (0.0)
	Yes	141 (95.3)	172 (100.0)

Table 5. Knowledge, attitudes, and beliefs on breast health in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Variable		Women without a mammogram (%)	Women with a mammogram (%)
Mammography Is useful	Very useful	69 (46.3)	115 (66.1)
	Somewhat	27 (18.1)	32 (18.4)
	Not very	13 (8.7)	5 (2.9)
	Do not know	40 (26.8)	22 (12.6)
A woman can have breast cancer without symptoms	Strongly agree	16 (10.7)	39 (22.4)
	Agree	67 (45.0)	95 (54.6)
	Disagree	22 (14.8)	12 (6.9)
	Strongly disagree	5 (3.4)	8 (4.6)
	Do not know	39 (26.2)	20 (11.5)
A woman does not need a mammogram unless she gets a breast problem	Strongly agree	22 (14.8)	19 (10.9)
	Agree	57 (38.3)	56 (32.2)
	Disagree	49 (32.9)	68 (39.1)
	Strongly disagree	7 (4.7)	22 (12.6)
	Do not know	14 (9.4)	9 (5.2)
Breast cancer can be cured if caught early enough	Strongly agree	25 (16.8)	45 (25.9)
	Agree	99 (66.4)	107 (61.5)
	Disagree	9 (6.0)	10 (5.7)
	Strongly disagree	1 (0.7)	1 (0.6)
	Do not know	15 (10.1)	11 (6.3)
Concern stops having a mammogram	Yes	14 (9.8)	4 (2.3)
	No	129 (90.2)	169 (97.7)
Other concerns stop having a mammogram	Yes	12 (8.3)	3 (1.7)
	No	132 (91.7)	171 (98.3)

Table 5. continued

Variable		Women without a mammogram (%)	Women with a mammogram (%)
Getting a mammogram next year	Very likely	32 (21.5)	121 (69.5)
	Somewhat	36 (24.2)	18 (10.3)
	Not very	12 (8.1)	7 (4.0)
	Not likely	50 (33.6)	15 (8.6)
	Do not know	19 (12.8)	13 (7.5)
Heard of breast examination in past year	No	42 (28.2)	34 (19.5)
	Yes	105 (70.5)	139 (79.9)
	Not sure	2 (1.3)	1 (0.6)
Attended a meeting or received materials on breast cancer in past year	No	131 (87.9)	127 (73.0)
	Yes	17 (11.4)	47 (27.0)
	Not sure	1 (0.7)	0 (0.0)
Things you heard or got made you more likely to get a breast examination	No	96 (64.4)	61 (35.1)
	Yes	43 (28.9)	108 (62.1)
	Not sure	10 (6.7)	5 (2.9)
Who more likely to get breast cancer	<65	16 (10.7)	20 (11.5)
	>65	12 (8.1)	6 (3.4)
	Age no diff	97 (65.1)	136 (78.2)
	Don't know	24 (16.1)	12 (6.9)

Table 6. History of breast lumps and family history of breast cancer in older single African-American women with and without having had a mammogram in the past year, Nashville, Tennessee, 1997

Variable		Women without a mammogram (%)	Women with a mammogram (%)
Ever had breast lumps	Yes	8 (5.4)	16 (9.2)
	No	140 (94.6)	157 (90.8)
Breast cancer in 1st degree relatives	Yes	13 (9.8)	29 (19.2)
	No	120 (90.2)	122 (80.8)

Table 7. The numbers of eligible women, move outs, deaths, refusals, interviews completed and remaining interviews according to complex for post-intervention interviews, as to August 31, 1998

Housing Complex	# of women who participated last year	Moved out	Deceased	Refusals	Interviews completed this year	Remaining interviews
Hadley Towers	45	5	2	1	29	8
J.C. Napier Court	37	0	0	1	27	9
Tony Sudekum Homes	13	0	0	0	8	5
Cheatham Place	30	4	0	0	22	4
Preston Taylor Homes	22	2	2	0	18	0
John Henry Hale Homes	23	2	0	2	19	0
Andrew Jackson Court	60	9	0	1	22	28
I.W. Gernert	66	2	2	3	46	13
Edgefield Manor	21	0	0	0	0	21
Vine Hill-Knowles	8	0	0	0	0	8
Total	325	24	6	8	191	96

AMERICAN COLLEGE OF EPIDEMIOLOGY

July 2, 1998

K Zhu, MD, PhD
Meharry Medical College, Dept of Family & Prevent
1005 DB Todd Jr Blvd
Nashville TN 37208 USA

Dear Dr. Zhu:

I am pleased to inform you that your submission entitled "**Cognitive, Psychological, Social and Medical Care Factors in Mammography** . . ." has been selected for presentation as a poster for the American College of Epidemiology's 1998 Annual Scientific Sessions which will be held September 27-28, 1998 in San Francisco.

Your presentation has been scheduled for Sunday, September 27, 1998 from 5:30 to 7:30 p.m. at the Hyatt Regency Embarcadero. Suggested guidelines for preparing your poster are enclosed. Please review these carefully.

A copy of the preliminary program for the 1998 Annual Meeting is enclosed. Registration materials will be mailed to you on July 15, 1998. As indicated in the brochure, all presenters are expected to register for the meeting.

If you have any questions regarding your scheduled presentation, please feel free to contact the National Office at 301/251-0594. Congratulations on an excellent submission. I look forward to seeing you in San Francisco.

Sincerely yours,

Dale P. Sandler

Dale P. Sandler, Ph.D.
Chair, Continuing Education Committee

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